REMARKS

In the patent application, claims 1, 2, 4, 5, 7-11, 13, 15-17, 20-25, 27, 31, 33-35 and 37 are pending.

In the office action, all pending claims are rejected.

Applicant has amended claims 1, 13, 27 and 34.

Claims 1 and 13 have been amended to include the limitation that the packet stream transfer delay variation is indicative of a variation in time for transferring of the packet stream from the server to the client.

Claims 27 and 34 have been amended to include the limitation that parameters of the jitter buffer is estimated based on estimated packet stream transfer delay variation indicative of a variation in time for transferring of the packet stream from the server to the client.

The support for the amendment can be found in Figure 2 which shows that the transfer delay D is the difference in the x axis between the T curve and the R curve; and on page 11, lines 6-9 of the specification.

No new matter has been introduced.

At section 3 of the office action, claims 1, 2, 4, 5, 7-11, 13, 20-25, 27, 31, 33-35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable by *Harumoto et al.* (U.S. Patent Application Publication No. 2002/0004840 A1, which has been published as Patent No. 7,016,970 B2, hereafter referred to as *Harumoto*), in view of *Radha et al.* (U.S. Patent No. 6,700,893, hereafter referred to as *Radha*).

In rejecting claim 1, the Examiner states that *Harumoto* discloses a method for receiving a packet stream as claimed, except that *Harumoto* fails to disclose that the client receives pre-decoder buffer parameters from the server. The Examiner points to *Radha* for disclosing that the client has a buffer controller that estimated delay, jitter and bandwidth of the network (col. 12, lines 20-23), and that the server (transmitter) sends the parameters to the client. In particular, the Examiner considers T_delay in *Harumoto* as being equivalent to the packet stream transfer delay variation, and S_target in *Harumoto* as being equivalent to the parameters of a jitter buffer. The Examiner further states that *Harumoto* discloses a client's terminal which sends its buffer and transmission capacity (buffer and jitter size: S_target) and the time delay (packet stream transfer delay variation) to the server.

It is respectfully submitted that, claim 1 includes the limitations of

receiving from the server pre-decoder buffering parameters to ensure that the client is able to play out the received packet stream without buffer violation when the packet stream is transmitted over a constant delay, reliable transmission channel;

estimating packet stream transfer delay variation indicative of a variation in time for transferring of the packet stream from the server to the client;

estimating parameters of a jitter buffer based on packet stream transfer delay variation; and

transmitting to the server information indicative of an aggregate of the pre-decoding buffering parameters and the jitter buffer.

According to the claimed invention, the server is configured to provide pre-decoder buffering parameters, and the client is configured to estimate the packet stream transfer delay variation, parameters of a jitter buffer based on the transfer delay variation, and transmitting an aggregate of the pre-decoding buffering parameters and the jitter buffer, wherein the packet stream transfer delay variation indicative of a variation in time for transferring of the packet stream from the server to the client.

Harumoto is concerned with a method wherein the client (terminal) notifies a server of a target value and a delay time as determined by the client, allowing the server to control the transmission speed so that the buffer occupancy of the client changes in the vicinity of the target value without exceeding the target value. In particular, the target value (S_target) is the value of stream data to be stored in the receiver buffer determined based on the entire capacity of the buffer (col.11, lines 9-15). The parameter S_target generally varies with the type of the terminal in the client (col.11, lines 15-17). The delay time (T_delay) is indicative of the period between the time the client writes a head data of the stream data to the buffer, read the data and start decoding or playing (col. 11, lines 18-20; abstract). The delay time or T_delay, according to *Harumoto*, is different from the packet stream transfer delay variation indicative of a variation in time for transferring of the packet stream from the server to the client.

Harumoto does not disclose or suggest that the client receives pre-decoder buffering parameters from the server. *Harumoto* does not disclose or suggest that the client estimates the packet stream transfer delay variation indicative of a variation in time for transferring of the packet

stream from the server to the client. *Harumoto* does not disclose that the client estimates parameters of a jitter buffer based on the packet stream transfer delay variation. Accordingly, *Harumoto* fails to disclose that the client sends to the server information indicative of an aggregate of the pre-decoding buffering parameters and the jitter buffer.

Radha discloses a delay budget controller 138 for use with a decoder buffer that receives streaming data packets over a data network from a streaming transmitter. The delay budget controller includes 1) a first controller for monitoring one network parameter associated with the data network; and 2) a second controller for monitoring in the decoder buffer a delay budget region comprising a retransmission region and a late region (see Abstract). The delay budget controller 138 comprises a real-time QoS characterization circuit 505, a buffer management circuit 510 and a delay budget management circuit 515 (see Figure 5 and col. 11, lines 15-22). The real-time QoS characterization circuit 505 is used for calculating and updating round-trip delay, delay jitter and bandwidth (col.11, lines 49-52); the buffer management circuit 510 is used for identifying the minimum ideal start-up delay and the minimum total starting delay (col.12, lines 2-5). The buffer management circuit 510 may also be used to calculate preliminary estimates for round-trip delay, delay jitter and bandwidth (col.12, lines 23-28); and the delay budget management circuit 515 is used to determine and manage the elapsed time need for detecting and recovering lost packets through the re-transmitting process (col.12, lines 53-55). The network conditions (round-trip delay, delay jitter and bandwidth) and the delay parameters (minimum ideal start-up delay and the minimum total starting delay) are then used to calculate the probability that a video packet has actually been lost if a packet is not received after a minimum monitoring time (col.15, line 64 to col.16, line 17). Under a certain condition, the delay budget controller 138 transmits a re-transmission request to the streaming video transmitter 110 (Figure 6, step 625; col.16, lines 18-21).

In summary, *Radha* discloses using a delay budget controller 138 to monitor the network conditions and to request data re-transmission if a packet is not received after a minimum monitoring time. *Radha* does not disclose or suggest that the client receives pre-decoder buffering parameters from the server. *Radha* does not disclose that the client sends to the server information indicative of an aggregate of the pre-decoding buffering parameters and the jitter buffer.

For the above reasons, *Harumoto*, in view of *Radha*, fails to render independent claim 1 obvious.

For the same reason, *Harumoto*, in view of *Radha*, fails to render independent claims 13, 27 and 34 obvious.

As for claims 2, 4, 5, 7-11, 20-25, 31, 33, 35 and 37, they are dependent from claims 1, 13, 27 and 34 and include further limitations. For reasons regarding claims 1, 13, 27 and 34 above, *Harumoto*, in view of *Radha*, also fails to render claims 2, 4, 5, 7-11, 20-25, 31, 33, 35 and 37 obvious.

At section 4, claims 9-11 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Harumoto*, in view of *Radha*, and further in view of *Deshpande* (U.S. Patent No. 7,047,308). The Examiner cites *Deshpande* for disclosing a client and a server uses RSTP messages for communication.

At section 5, claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Harumoto*, in view of *Radha*, and further in view of *Schuster et al.* (U.S. Patent No. 6,785,261, hereafter referred to as *Schuster*). The Examiner cites *Schuster* for disclosing a buffer in a decoder in VOIP network.

It is respectfully submitted that claims 9-11, 15 and 23-25 are dependent from claims 1 and 13 and include further limitations. For reasons regarding claims 1 and 13 above, claims 9-11, 15 and 23-25 are also distinguishable over the cited *Harumoto*, *Radha*, *Deshpande* and *Schuster* references.

CONCLUSION

Claims 1, 2, 4, 5, 7-11, 13, 15-17, 20-25, 27, 31, 33-35 and 37 are allowable. Early allowance of all pending claims is earnestly solicited.

Respectfully submitted,

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